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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|-----------------|-------------|----------------------|---------------------|
| 09/583,087      | 02/01/00    | YAMAZAKI             | S 0756-2203         |

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| EXAMINER<br>JACKSON JR, J |
|---------------------------|

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| ART UNIT<br>2815 | PAPER NUMBER |
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DATE MAILED: 10/18/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

# Office Action Summary

Application No.

09/583,087

Applicant(s)

YAMAZAKI, SHUNPEI

Examiner

Jerome Jackson Jr.

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 21-41 and 43-66 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-41 and 43-66 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 07/811,063.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 3, 6, 7, 12
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

Art Unit: 2815

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 21-41,43-66 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-46 of prior U.S. Patent No. 6,023,075. This is a double patenting rejection.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-33,41,43,44,49,52,53,56,61-66, are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang '781 in view of Misawa '826 and Yamazaki Jp '173.

In CMOS devices it is preferable to equalize the absolute value of the threshold voltage in the p-channel and n-channel devices. Chang teaches these concepts. The doping of the substrate figures in the formula for threshold voltage as shown in Chang. Chang teaches boron p "pockets" or "channels" with doping concentration  $2-4 \times 10^{16}$  and p-doped polycrystalline gates. It would have been obvious to have practiced similar threshold control means in a device as Misawa to enable equal threshold voltages.

Accordingly claim limitations reciting a boron concentration  $10E15 - 10E18$  are obvious. Limitations regarding p channel and n channel mobilities are also obvious because Misawa teaches polycrystalline material with mobility over  $15 \text{ cm}^2/V\cdot\text{sec}$ . High mobility material is useful for fast devices. Integration of drivers and pixels on the same substrate are also obvious from Misawa. In regard to "leveling film" Misawa shows insulating film 84,95 which covers both the pixel and driver transistors and can function or be labeled as a "leveling film". The thickness of the Misawa films is less than a depletion layer width and accordingly is less than 5000 angstroms. Moreover, Yamazaki teaches thin film transistors with low oxygen level and thickness below 5000 angstroms. It would have been obvious to have practiced low oxygen levels and thickness below 5000 angstroms for a Misawa type device from the suggestions of Yamazaki. Accordingly, claims 21-33,41,43,44, 49,52,53,56,61-66 are obvious.

Claims 21-41,43-56,61-66, are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang with Misawa, Yamazaki, and further in view of Baldi '552.


Baldi teaches CMOS with threshold voltage control and doped silicided gates. From the teachings of Baldi it would have been obvious to have practiced transistors with threshold control and silicided gates in a device as Misawa to provide low threshold voltages. One of ordinary skill knows how to adjust the variables in the threshold formula to attain a desired threshold voltage. Adjustment of the substrate doping, gate material, etc. are obvious in view of the teachings of the applied art. Claims 21-41,43-56,61-66 are obvious structure.

Claims 21-41, 43-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Misawa with Chang, Yamazaki, and Baldi, and further in view of Sumiyoshi '134 and Akiyama, Japan Display.

In regard to claims reciting a leveling film of resin, either Sumiyoshi or Akiyama suggest resin leveling or passivation films over transistors in a device as Misawa to improve device integrity. Claims 57-60 are obvious structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Jackson Jr. whose telephone number is 703 308 4937. The fax phone number for the organization where this application or proceeding is assigned is 703 308 7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

  
Jerome Jackson, Jr.  
Primary Examiner